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11/11

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/751,512 | 01/06/2004 | Tatsuya Ito | 113112.01 | 3327 |

7590 01/10/2008
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| EXAMINER |
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MRUK, GEOFFREY S

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2853

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| MAIL DATE | DELIVERY MODE |
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01/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/751,512

Applicant(s)

ITO ET AL.

Examiner

Geoffrey Mruk

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/186,427.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 October 2007 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

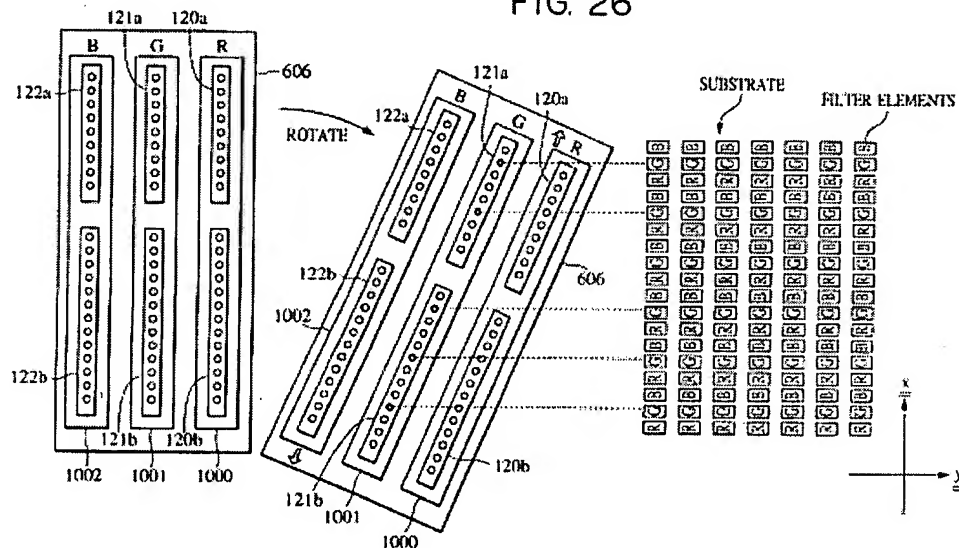
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

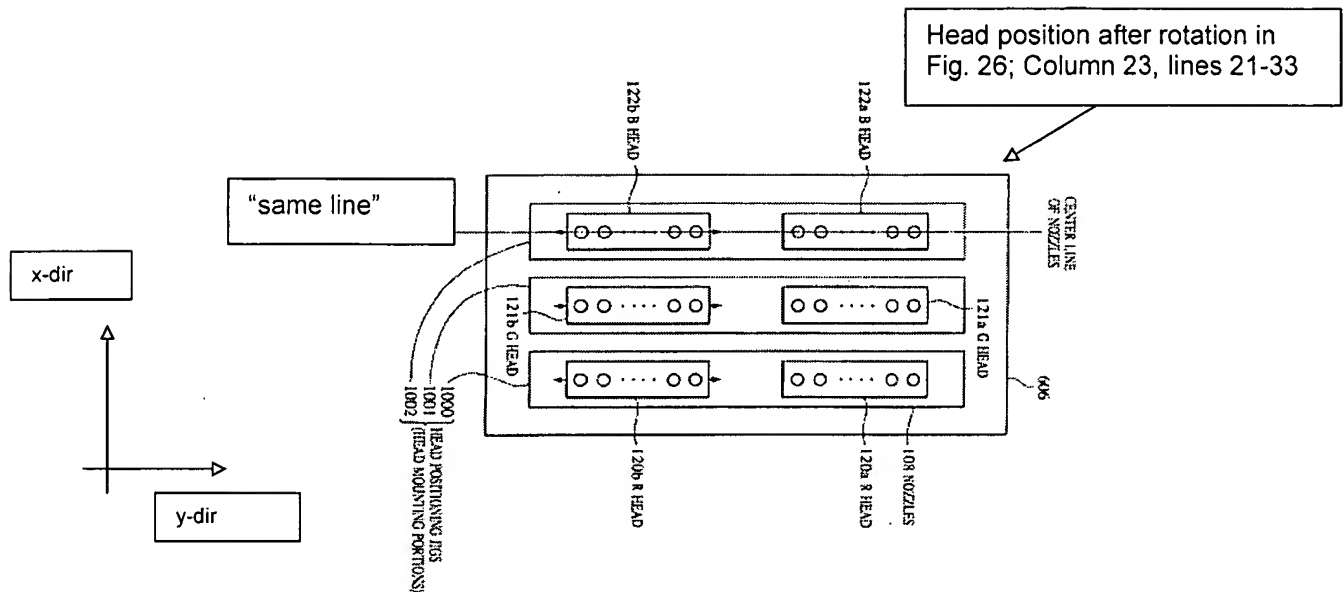
Claims 41-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Shigemura (US 6,667,795 B2).

With respect to claim 41, Shigemura discloses an apparatus (Fig. 14) for manufacturing a color filter (Column 1, lines 15-24), comprising: a plurality of ejection heads (Fig. 26, elements 120a, 120b, 121a, 121b, 122a, 122b) which are arranged perpendicular to a head scan direction (Fig. 26, element x-dir) arranged on a print head (Fig. 26, element 606), each ejection head having a

plurality of nozzles (Fig. 16, elements 108) for ejecting a filter material in droplets (Column 1, lines 26-33); the plurality of nozzles (Fig. 16, elements 108) linearly arranged with a constant layout pitch of (D) (Fig. 23, Nozzle Pitch), the plurality of ejection heads are arranged on the print head to form at least one linear row of nozzles (Fig. 16, center line of nozzles, i.e. y direction) arranged perpendicular to the head scan direction (Fig. 26, element x-dir), wherein at least one of the plurality of ejection heads (Fig. 3A, elements 120, 121, 122) comprises a plurality of first nozzles (Fig. 16, elements 108) for ejecting a first type of filter material (Column 10, lines 30-36), a plurality of second nozzles (Fig. 16, elements 108) for ejecting a second type of filter material (Column 10, lines 30-36), and a plurality of third nozzles (Fig. 16, elements 108) for ejecting a third type of filter material (Column 10, lines 30-36), the plurality of first, second, and third nozzles arranged in a same line (Center line of nozzles below, i.e. after rotation).

FIG. 26





With respect to claim 42, Shigemura discloses an apparatus (Fig. 14) for manufacturing an electroluminescence substrate (Column 1, lines 15-24), comprising: a plurality of ejection heads (Fig. 26, elements 120a, 120b, 121a, 121b, 122a, 122b) which are arranged perpendicular to a head scan direction (Fig. 26, element x-dir) arranged on a print head (Fig. 26, element 606) each ejection head having a plurality of nozzles (Fig. 16, elements 108) for ejecting a filter material in droplets (Column 1, lines 26-33), the plurality of nozzles (Fig. 16, elements 108) linearly arranged with a constant layout pitch of (D) (Fig. 23, Nozzle Pitch), the plurality of ejection heads are arranged on the print head to form at least one linear row of nozzles (Fig. 16, center line of nozzles, i.e. y direction) arranged perpendicular to the head scan direction (Fig. 26, element x-dir), wherein at least one of the plurality of ejection heads (Fig. 3A, elements 120, 121, 122) comprises a plurality of first nozzles (Fig. 16, elements 108) for

ejecting a first type of filter material (Column 10, lines 30-36), a plurality of second nozzles (Fig. 16, elements 108) for ejecting a second type of filter material (Column 10, lines 30-36), and a plurality of third nozzles (Fig. 16, elements 108) for ejecting a third type of filter material (Column 10, lines 30-36), the plurality of first, second, and third nozzles arranged in a same line (Fig. 16 above).

With respect to claim 43, Shigemura discloses a method for manufacturing a color filter (Columns 7-11), comprising: scanning a substrate by moving a table (Fig. 14, elements 603, 604) and a plurality of ejection heads (Fig. 26, elements 120a, 120b, 121a, 121b, 122a, 122b) which are arranged perpendicular to a head scan direction (Fig. 26, element x-dir) arranged on a print head (Fig. 26, element 606); and ejecting a plurality of types of filter material (Column 10, lines 48-52) in droplets (Column 1, lines 26-33) by the plurality of ejection heads each ejection head having a plurality of nozzles (Fig. 16, elements 108) arranged with a constant layout pitch of (D) (Fig. 23, Nozzle Pitch), the plurality of ejection heads being linearly arranged to form at least one linear row of nozzles (Fig. 16, center line of nozzles, i.e. y direction) which is arranged perpendicular to the head scan direction (Fig. 26, element x-dir), wherein at least one of the plurality of ejection heads (Fig. 3A, elements 120, 121, 122) comprises a plurality of first nozzles (Fig. 16, elements 108) for ejecting a first type of filter material (Column 10, lines 30-36), a plurality of second nozzles (Fig. 16, elements 108) for ejecting a second type of filter material (Column 10, lines 30-36), and a plurality of third nozzles (Fig. 16, elements 108) for ejecting a third type of filter material (Column

10, lines 30-36), the plurality of first, second, and third nozzles arranged in a same line (Center line of nozzles above, i.e. after rotation).

With respect to claim 44, Shigemura discloses a method for manufacturing an electroluminescence substrate (Columns 26-27), comprising: scanning a substrate by moving a table (Fig. 14, elements 603, 604) and a plurality of ejection heads (Fig. 26, elements 120a, 120b, 121a, 121b, 122a, 122b) which are arranged perpendicular to a head scan direction (Fig. 26, element x-dir) arranged on a print head (Fig. 26, element 606); and ejecting a plurality of types of functional layer forming material (Column 27, lines 30-34) in droplets (Column 1, lines 26-33) by a plurality of ejection heads, having a plurality of nozzles (Fig. 16, elements 108) arranged with a constant layout pitch of (D) (Fig. 23, Nozzle Pitch), the plurality of ejection heads being linearly arranged to form at least one linear row of nozzles (Fig. 16, center line of nozzles, i.e. y direction) which is arranged perpendicular to the head scan direction (Fig. 26, element x-dir), wherein at least one of the plurality of ejection heads (Fig. 3A, elements 120, 121, 122) comprises a plurality of first nozzles (Fig. 16, elements 108) for ejecting a first type of functional layer forming material (Column 10, lines 30-36), a plurality of second nozzles (Fig. 16, elements 108) for ejecting a second type of functional layer forming material (Column 10, lines 30-36), and a plurality of third nozzles (Fig. 16, elements 108) for ejecting a third type of functional layer forming material (Column 10, lines 30-36), the plurality of first, second, and third nozzles arranged in a same line (Center line of nozzles above, i.e. after rotation).

With respect to claim 45, Shigemura discloses the plurality of first, second and third nozzles (Fig. 16, elements 108) are arranged in one of the linear row of nozzles arranged perpendicular to the head scan direction (Fig. 26 above).

With respect to claim 46, Shigemura discloses the plurality of first, second and third nozzles (Fig. 16, elements 108) are arranged in one of the linear row of nozzles arranged perpendicular to the head scan direction (Fig. 26 above).

With respect to claim 47, Shigemura discloses the plurality of first, second and third nozzles (Fig. 16, elements 108) are arranged in one of the linear row of nozzles arranged perpendicular to the head scan direction (Fig. 26 above).

With respect to claim 48, Shigemura discloses the plurality of first, second and third nozzles (Fig. 16, elements 108) are arranged in one of the linear row of nozzles arranged perpendicular to the head scan direction (Fig. 26 above).

Response to Arguments

Applicant's arguments filed 26 October 2007 have been fully considered but they are not persuasive. The applicant argues "The "same line" identified in Office Action Fig. 16 is perpendicular to the "center line of nozzles," is thus not perpendicular to the head scan direction, as recited in claims 41-44" and "the nozzles arranged in the "same line" identified in Office Action Fig. 16 include only one first nozzle, only one second nozzle and only one third nozzle, as shown in Fig. 16, and not a plurality of either first, second or third nozzles, as recited in the claims 41-44." However, Shigemura discloses a color filter manufacturing apparatus having a head θ motor (Fig. 13, element 612) where "Next, in step S2,

the entire head unit 606 is rotated as shown in FIG. 26, so as to match the nozzle pitch of the ink jet heads in the X direction to the pixel pitch of the color filter.

With the present embodiment, the head unit 606 is rotated on the G head (121a and 121b), and adjustment is made to an angle whereby pixels on the substrate can be colored by the nozzles of the G head (121a and 121b). Also, following setting of the rotational angle of the entire head unit, i.e., setting of the rotational angle of the G head, adjustment of rotational angle is performed for the R head and B head relative to the G head" (Column 23, lines 21-33). Thus, Shigemura meets the claimed limitations.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is (571) 272-2810. The examiner can normally be reached on Monday-Friday 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system; call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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1/3/2008

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